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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Don Eadie

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EXAMINER

AUNG, SAN M

ART UNIT

PAPER NUMBER

3657

MAIL DATE

DELIVERY MODE

05/11/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/581,268	EADIE ET AL.	
	Examiner	Art Unit	
	SAN AUNG	3657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/01/06, 09/24/07 and 04/22/09</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This communication is a First Office Action Non-Final rejection on the merits.
Claims 1-26, as originally filed, are currently pending and have been considered below.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1-6, 9, 18-20, 24-25** are rejected under 35 U.S.C. 102(b) as being anticipated by Kumar et al. (US Patent 5,477,941).

As per claim 1, Kumar et al. discloses On-Board Lubrication System for Direct Application to Curved and Tangent Railroad Track comprising;

i. supplying the liquid composition in one or more than one reservoir on a rail car (52, 53); and

ii. applying the liquid composition from the one or more than one reservoir to the rail surface (Figure 5).

As per claim 2, Kumar et al. discloses after the step of supplying (step i), there is a step of:

a. determining a change in the topology of the rail within a rail system, and, in the step of applying (step ii), the liquid composition is applied to the rail surface as a result of a change in the topology of the rail (Column 5, Lines 1-7, Figure 5).

As per claim 3, Kumar et al. discloses in the step of applying (step ii), the liquid composition is applied to a curved section of the rail, a tangent section of the rail, or both a curved section of the rail and a tangent section of the rail (Column 4, Lines 36-47, Figures 4).

As per claim 4, Kumar et al. discloses in the step of applying (step ii), the liquid composition is applied to the top of the rail, to a side of a railhead of the rail, or both to the top of the rail and to the side of a railhead (Figure 4).

As per claim 5, Kumar et al. discloses the liquid composition is applied to the top of the rail (Figure 4).

As per claim 6, Kumar et al. discloses the liquid composition is applied to both the top of the rail and to the side of the railhead (Figure 4).

As per claim 9, Kumar et al. discloses a step of obtaining and processing system information, the system information comprising topological information (Column 5, Lines 1-7), data from a liquid delivery system comprising the one or more than one reservoir (Figure 5), or both topological information and data from a liquid delivery system, wherein the system information is obtained and processed locally within the rail car (Column 5, Lines 1-7).

As per claim 18, Kumar et al. discloses liquid composition in a railway system, comprising the steps of:

- i. supplying the liquid composition in one or more than one reservoir on board a train consist (52, 53);
- ii. receiving topological information from a topological device on board the train

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consist (Column 5, Lines 1-7);

iii. processing the topological information received from the topological device using a processing device to produce processed topological information (Column 5, Lines 1-7); and

iv. applying the liquid composition from one car within the train consist to a rail surface within the rail system according to the processed topological information (Column 5, Lines 54-61).

As per claim 19, Kumar et al. discloses in the step of processing (step iii), the processing device is selected from the group consisting of a computer, a microprocessor, and a programmable logic controller (PLC) (Column 5, Lines 1-5).

As per claim 20, Kumar et al. discloses the one car within the train consist is a locomotive (Column 3, Lines 46-53).

As per claim 24, Kumar et al. discloses in the step of receiving (step i), the topological device is selected from the group consisting of a device for determining the speed of a pair of wheels (44), one or more than one gyroscope, one or more than one proximity probe, and a rail width detection system (58, Column 5, Lines 44-53).

As per claim 25, Kumar et al. discloses lubricating to a rail surface, comprising:

i. means for acquiring topological information of a rail system in real time (Column 5, Lines 1-7, Figure 5);

ii. means for applying the liquid composition to the rail surface (Figures 3 and 5);
and

iii. a processing device for receiving the topological information, and controlling the application of the liquid composition (Column 5, Lines 1-7, Figure 5).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 7 and 8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar et al. (US Patent 5,477,941).

Regarding **claims 7 and 8**, Kumar et al. discloses all the structural elements of the claimed invention but fails to explicitly disclose rail car is a freight car and a passenger car. The examiner take official notice that freight car and passenger car are well know in the art and rail or train system.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a liquid composition system as known in the art, for the system of Kumar et al. as an obvious and alternate construction yielding predictable result.

5. **Claims 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar et al. (US Patent 5,477,941) as applied to claim1, 18 and 19 above, and further in view of Nelson et al. (US Patent 5,236,063).

As per claim 10, Kumar et al. discloses a step of obtaining and processing system information, the system information comprising topological information, data

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from a liquid delivery system comprising the one or more than one reservoir, or both topological information and data from a liquid delivery system (Column 5, Lines 1-7)

However, Kumar et al. fails to explicitly disclose the system information is obtained and processed remotely at a site separate from the rail car.

Nelson et al. discloses Rail Lubricating Device comprising;

the system information is obtained and processed remotely at a site separate from the rail car(Column 4, Lines 35-39).

It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the liquid composition system of the Kumar et al. to include the system information and process which is obtained and processed remotely at a site separate from the rail car taught by Nelson et al. in order to control the application of lubricant any remote region efficiently and can stop immediately in case of emergency.

6. **Claims 11-13, 15 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar et al. (5,477,941), and further in view of Kast et al. (US Patent 6,578,669 B2).

As per claim 11, Kumar et al. On-Board Lubrication System for Direct Application to Curved and Tangent Railroad Track comprising;

- i. one or more than one reservoir for holding a liquid composition (52, 53, Figure 5);
- ii. a pipe connected to the one or more than one reservoir (Figure 5),

However, Kumar et al. fails to explicitly disclose a pump, in fluid communication with the pipe, for moving the liquid composition from the one or more than one reservoir to one or more than one dispensing nozzle.

Kast et al. discloses Rail Lubrication System comprising;

a pump (38, 64), in fluid communication with the pipe, for moving the liquid composition from the one or more than one reservoir to one or more than one dispensing nozzle (Figure 2).

It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the lubrication system of Kumar et al. to include the pump and which is fluid communication with the pipe, for moving the liquid composition from the one or more than one reservoir to one or more than one dispensing nozzle taught by Kast et al. in order to provide continuously supply of a lubricant along the lubricant path and can apply relatively thick rail lubricant to the rail.

As per claim 12, Kumar et al. discloses a controller (40) that processes topological information, data from the liquid composition application system, or both topological information and data from a liquid composition application system (Column 5, Lines 1-7, Figure 5).

As per claim 13, Kumar et al. discloses the controller is connectable to a locomotive control circuit, and wherein the controller operates in response thereto (Column 6, Lines 18-22).

As per claim 15, Kumar et al. discloses all the structural elements of the claimed invention but fails to explicitly disclose a source of pressurized air connected to the one

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or more than one dispensing nozzle to dispense the liquid composition as an atomized spray.

Kast et al. discloses a source of pressurized air (94) connected to the one or more than one dispensing nozzle to dispense the liquid composition as an atomized spray (Figure 2).

It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the lubricating system of the Kumar et al. to include the source of pressurized air connected to the one or more than one dispensing nozzle to dispense the liquid composition as an atomized spray taught by Kast et al. in order to spray lubricant effectively and can apply relatively thick rail lubricant to the rail.

As per claim 16, Kumar et al. discloses the controller is selected from the group consisting of a programmable logic controller, a microprocessor and a computer (Column 5, Lines 1-7, Figure 5).

7. **Claims 14** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar et al. (US Patent 5,477,941) and Kast et al. (US Patent 6,578,669 B2) as applied to claims 11 and 12 above, and further in view of Nelson et al. (US Patent 5,236,063).

As per claim 14, Kumar et al. and Kast et al. disclose all the structural elements of the claimed invention but fail to explicitly disclose the controller is accessed remotely from a site separate from the rail car.

Nelson et al. discloses the controller is accessed remotely from a site separate from the rail car (Column 4, Lines 35-39).

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It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the lubricating system of Kumar et al. and Kast et al. to include the control system which is accessed remotely from a site separate from the rail car taught by Nelson et al. in order to control the application of lubricant any remote region efficiently and can stop immediately in case of emergency.

8. **Claim 17** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar et al. (US Patent 5,477,941) and (Kast et al. (US Patent 6,578,669 B2).

Regarding **claims 17**, Kumar et al. and Kast et al. disclose all the structural elements of the claimed invention but fail to explicitly disclose lubrication system in the rail car. The examiner takes official notices that rail car is well know in the art and rail or train system.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a liquid composition system as known in the art, for the system of Kumar et al. to use in rail car as an obvious and alternate construction yielding predictable result.

9. **Claim 21** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar et al. (US Patent 5,477,941).

Regarding **claims 21**, Kumar et al. and Kast et al. disclose all the structural elements of the claimed invention but fail to explicitly disclose one car within the train consist is a rail car. The examiner takes official notices that rail car is well know in the art and rail or train system.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize rail car as known in the art, for the system of Kumar et al. to use in rail car as an obvious and alternate construction yielding predictable result.

10. **Claims 22, 23 and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar et al. (US Patent 5,47,941) as applied to claims 18 and 25 above, and further in view of Clyne K. M. et al. (WO 0118558 A1).

As per claim 22, Kumar et al. discloses all the structural elements of the claimed invention but fails to explicitly disclose the step of receiving (step i), the topological device comprises a global positioning system (GPS), the GPS providing real-time topological information to the processing device for controlling the application of the liquid composition to the rail surface.

Clyne K. M. et al. discloses Motion and Location Parameters determination comprising;

the step of receiving (step i), the topological device comprises a global positioning system (GPS) (16, 18), the GPS providing real-time topological information to the processing device for controlling the application of the liquid composition to the rail surface (Page 6, Line 24-page 7, line 8).

It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the lubricating system of Kumar et al. to include the global positioning system (GPS), the GPS providing real-time topological information to the processing device for controlling the application of the liquid composition to the rail

surface taught by Clyne K M et al. in order to provide an accurate heading and advantageously be use to reduce usage of lubricant applied to the rail.

As per claim 23, Kumar et al. discloses a database having topology information of the railway system (Column 5, Lines 1-7).

However, Kumar et al. fails to explicitly disclose the processing device coordinates the information from the GPS with the database information for controlling the application of the liquid composition to the rail surface.

Clyne K. M. et al. disclose the processing device coordinates the information from the GPS with the database information for controlling the application of the liquid composition to the rail surface (Page 6, lines 24—page 7, line 9 and page 9, lines 5-8).

It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the lubricating system of Kumar et al. to include the processing device coordinates the information from the GPS with the database information for controlling the application of the liquid composition to the rail surface taught by Clyne K. M. et al. in order to provide an accurate heading and advantageously be use to reduce usage of lubricant applied to the rail.

As per claim 26, Kumar et al. discloses all the structural elements of the claimed invention but fails to explicitly disclose the means for acquiring is selected from the group consisting of a global position system (GPS), a device for determining the speed of a pair of wheels, one or more than one gyroscope, one or more than one proximity probe, and a rail width detection system.

Clyne K. M. et al. discloses the means for acquiring is selected from the group consisting of a global position system (GPS) (16, 18), a device for determining the speed of a pair of wheels, one or more than one gyroscope, one or more than one proximity probe, and a rail width detection system (Page 7, lines 9-17.

It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the lubricating system of Kumar et al. to include the means for acquiring is selected from the group consisting of a global position system (GPS), a device for determining the speed of a pair of wheels, one or more than one gyroscope, one or more than one proximity probe, and a rail width detection system taught by Clyne K. M. et al. in order to provide an accurate heading and advantageously be use to reduce usage of lubricant applied to the rail.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The reference Kumar (US Patent 5,896,947) discloses On Board Lubrication System for Lubricating Top of Rail for Cars and Rail Gage Side/Wheel Flange for Locomotives with similar features.

The reference N. G. E. Allard (US Patent 2,724,458) discloses Rail-Bend Lubricating Device for Rail-Cars with similar features.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAN AUNG whose telephone number is (571)270-5792. The examiner can normally be reached on Mon-to- Fri 7:30 am- to 5:00 pm..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on 571-272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

San M Aung

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